

# Appendix D: Design and Restoration Project Deliverables

This appendix was drafted to cover a wide range of design and restoration projects, and reflects best practices for salmon recovery projects. The guidance is intended to provide clear requirements for documentation of the design and construction process and help sponsors demonstrate project quality and success. Appendix D will serve as a guide for developing a project application and specific deliverables in the project agreement.

## How Appendix D is Organized

This appendix is split into four sections. The purpose behind splitting these out is to provide you with a better understanding of the different design stages and deliverable expectations that will go into the project agreement. For example, D-4 covers a comprehensive restoration project from conceptual design through construction, including as-built documentation. All restoration projects that include design elements shall follow four standard project development stages, described below, completed in a single design grant or in multiple design phases.

- Appendix D-1 – Conceptual Design Deliverables
- Appendix D-2 – Preliminary Design Deliverables
- Appendix D-3 – Final Design Deliverables
- Appendix D-4 – Construction and Design-Build Deliverables

## Project Deliverables

Included in each section of Appendix D (D1-D4) is the deliverables matrix (see below). This is intended to provide a quick reference on the intended deliverables throughout

the design and construction phases. This matrix illustrates the expected deliverables so applicants can plan and budget accordingly for their projects. Specific project deliverables will be written into the project agreement based on project type, application, local evaluation, SRFB Review Panel recommendations, and sponsor experience. New questions have been added to the evaluation proposal and PRISM so the applicant can provide information on the project designer, applicant experience, and success with similar projects.

## Restoration Project Design

Salmon habitat restoration projects require a designer or team with a balance of knowledge and experience within the fisheries biology, civil engineering, and other

Project Deliverables

	Conceptual design	Preliminary design report	Permit applications	Design review comments	Final design report and drawings	Technical specification	Construction quantities and costs	Bidding documents	Permits	Cultural resources compliance	Control and tenure documentation	As-built
Project Type	Conceptual Design	✓										
	Preliminary Design	Application	✓	Optional	Optional					***		
	Final Design	Application	✓	Optional	✓	✓	✓	✓	Optional	***		
	Construction Project **	Application	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

\*\* Design-build construction projects have an abbreviated set of design requirements prior to construction. See Appendix D-4.

\*\*\* Cultural resources compliance may be required if Sponsor is conducting ground disturbing activities during the design phases.

technical fields. The person or team completing the preliminary project design is required to include at least one licensed professional engineer with experience in salmon habitat restoration. For certain projects, where project design is straightforward and sponsor liability concerns are minimal, a licensed professional engineer may not be required and may be designed by people with applicable experience and technical knowledge without the requirements for a licensed engineer.

**A sponsor that will NOT use a licensed professional engineer for the project design will need to answer specific questions in the salmon project proposal to be reviewed by the SRFB Review Panel during the application process.**

## Design-Build Projects

Most SRFB sponsors complete a final design report before moving forward into construction. However, some SRFB sponsors prefer to proceed to construction after completing a preliminary design. The SRFB refers to these projects as "design-build" projects. Design-build projects should be considered only in cases where the sponsor,

designer, and construction crew have extensive experience and have been successful with a particular project type.

**A sponsor that intends to use the design-build method to complete the project will need to answer specific questions in the salmon project proposal to be reviewed by the SRFB Review Panel.**

## **Restoration Design Report Examples**

To help with understanding the design report deliverable, RCO staff will publish some sample design reports on the RCO Web site. There should be simple to complex examples available for review to help understand the level of detail and the layout of a design report.

## **Stream Habitat Restoration Guidelines**

The *Stream Habitat Restoration Guidelines* are part of a series of guidance documents produced through the Aquatic Habitat Guidelines program with SRFB funding in early 2000. The Aquatic Habitat Guidelines program is a joint effort among state and federal agencies in Washington, including the Washington Departments of Ecology, Fish and Wildlife, Natural Resources, and Transportation; the Washington State Recreation and Conservation Office (SRFB); Puget Sound Partnership; the U.S. Fish and Wildlife Service; and the U.S. Army Corps of Engineers. The aquatic habitat guidelines do not replace existing regulatory requirements, though they are designed in part as technical guidance supporting regulatory streamlining and grant application review for stream restoration proposals.

RCO highly recommends that project sponsors review the *Stream Habitat Restoration Guidelines* (2012) online at [wdfw.wa.gov/conservation/habitat/planning/ahg/](http://wdfw.wa.gov/conservation/habitat/planning/ahg/). The purpose of the guidelines is to promote process-based natural stream restoration.

In developing your SRFB application, RCO highly recommends you consult Chapters 4 and 5 of the *Stream Habitat Restoration Guidelines*. Chapter 4 provides guidance to sponsors in developing their goals and objectives for their restoration projects as well as their restoration strategies. Chapter 5 provides guidance on designing and implementing restoration techniques.